

Title (en)  
LIQUID-LIQUID EXTRACTION SYSTEM AND METHOD

Title (de)  
SYSTEM UND METHODE ZUR FLÜSSIG-FLÜSSIG-EXTRAKTION

Title (fr)  
SYSTEME ET PROCEDE D'EXTRACTION LIQUIDE-LIQUIDE

Publication  
**EP 1603658 A1 20051214 (EN)**

Application  
**EP 04704448 A 20040122**

Priority  
• US 2004001729 W 20040122  
• US 38809903 A 20030313

Abstract (en)  
[origin: US2004178147A1] A liquid-liquid extraction system including an outer chamber and an inner chamber. The outer chamber is adapted to contain one of a feed solution and a liquid extractant and defines a containment region. The inner chamber is adapted to contain the other of the feed solution and the liquid extractant within a lower portion of the inner chamber. The inner chamber is defined by a microporous membrane sleeve that internally maintains a frame. Upon final assembly, at least the lower portion of the inner chamber is positioned within the containment region of the outer chamber such that the microporous membrane sleeve establishes an extraction interface between contents of the inner and outer chambers. In one embodiment, the flow region of the microporous membrane sleeve is immersed within a feed solution otherwise contained within the outer chamber.

IPC 1-7  
**B01D 63/08**; **B01D 63/10**; **B01D 69/10**; **B01D 61/24**; **B01D 11/04**

IPC 8 full level  
**B01D 63/08** (2006.01); **B01D 11/04** (2006.01); **B01D 61/24** (2006.01); **B01D 63/00** (2006.01); **B01D 63/10** (2006.01); **B01D 69/10** (2006.01)

CPC (source: EP US)  
**B01D 11/0415** (2013.01 - EP US); **B01D 11/0484** (2013.01 - EP US); **B01D 61/246** (2013.01 - EP US); **B01D 63/0822** (2022.08 - EP US); **B01D 63/10** (2013.01 - EP US); **B01D 65/00** (2013.01 - EP US); **B01D 2313/086** (2013.01 - EP US); **B01D 2313/14** (2013.01 - EP US); **B01D 2313/20** (2013.01 - EP US); **B01D 2315/06** (2013.01 - EP US)

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)  
**US 2004178147 A1 20040916**; **US 7105089 B2 20060912**; AU 2004222413 A1 20040930; BR PI0408184 A 20060321; BR PI0408184 B1 20130507; CA 2518847 A1 20040930; CA 2518847 C 20120710; CN 100577268 C 20100106; CN 1758952 A 20060412; EP 1603658 A1 20051214; EP 1603658 B1 20150812; EP 2289611 A1 20110302; EP 2292320 A1 20110309; EP 2404663 A1 20120111; EP 2404663 B1 20171108; JP 2006520269 A 20060907; RU 2005127547 A 20060320; US 2006283800 A1 20061221; US 7517455 B2 20090414; WO 2004082812 A1 20040930; ZA 200508261 B 20070328

DOCDB simple family (application)  
**US 38809903 A 20030313**; AU 2004222413 A 20040122; BR PI0408184 A 20040122; CA 2518847 A 20040122; CN 200480006631 A 20040122; EP 04704448 A 20040122; EP 10181537 A 20040122; EP 10181540 A 20040122; EP 10182185 A 20040122; JP 2006508622 A 20040122; RU 2005127547 A 20040122; US 2004001729 W 20040122; US 46804006 A 20060829; ZA 200508261 A 20051012